IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

MAEKAWA et al.

Application No.: Unassigned   Art Unit: Unassigned

Filed: January 16, 2001   Examiner: Unassigned

For: SOFTWARE MANAGEMENT SYSTEM

PRELIMINARY AMENDMENT

Assistant Commissioner for Patents
Washington, D. C. 20231

Dear Sir:

Prior to the examination of the above-identified patent application, please enter the following amendments and consider the following remarks.

IN THE SPECIFICATION

Replace the paragraph beginning at page 1, line 4, with:

The present invention relates to a software management system comprising a network system which includes a center server and a local server connected to the center server via a wide-area network, such that the center server manages the whole wide-area network. More particularly, the invention relates to a software management system which features an improved function

for downloading application software from the center server onto the local server maintaining improved reliability.

Replace the paragraph beginning at page 1, line 14, with:

Use of a wide-area network such as internet is ever spreading in recent years. Further, the widespread use of "Java" which is a network-directed program language, is requiring an increased amount of processing for downloading software from the center server onto a local server (computer, etc.) via a wide-area network.

Replace the paragraph beginning at page 1, line 21, with:

Besides, in recent years, even a computer having a relatively small memory capacity, such as a built-in type local server, is requiring a mechanism for downloading application software.

Replace the paragraph beginning at page 2, line 17, with:

For example, "a network management method and a system therefor" disclosed in Japanese unexamined Patent Publication (Kokai) No. 11-65968) is one in which a system based on a manager agent model specified under "M. 3010" recommended by ITU-T is furnished with a mechanism for downloading software written in Java.

Replace the paragraph beginning at page 3, line 1, with:

That is, in conventional remote software management systems operating via a network, the basic functions for downloading and deletion have been specified, but no consideration has been given to improving the reliability of the system, such as processing for coping with the abnormal operation of the software that is downloaded or for guaranteeing safe and reliable operation.

Replace the paragraph beginning at page 3, line 9, with

When consideration is given to software that may be further delivered via a network in the future, it becomes very necessary to maintain safety of the software that is downloaded and to cope with abnormal operation that may occur. However, no conventional system is capable of coping with the demand to a sufficient degree.

IN THE CLAIMS:

Replace the existing claims with:

1. (Amended) A software management system comprising a network system which includes a center server and a local server connected to said center server via a wide-area network, wherein:
said center server includes:
an application that operates upon being downloaded onto said local server;
a script describing operation of the application; and

fault countermeasure means for coping with occurrence of a fault; and

said local server includes:

a network-directed language execution environment;

remote management means for downloading the application from said center server, and for deleting the application after processing has finished;

script interpretation means for interpreting the script and for requesting the application to execute; and

highly reliable means for recording event data that occur while the application is being executed, for managing data when a fault has occurred, and for executing restoration processing.

2. (Amended) The software management system according to claim 1, wherein said remote management means includes:

center server data and application data:

request processing means that responds to a request for executing the application;

application downloading means for downloading the application from said center server based upon the center server data and the application data; and

application management means for executing and deleting the application based on the application data.

3. (Amended) The software management system according to claim 1, wherein said script interpretation means includes:

a script definition and a list of events;

interpretation means for interpreting the script in accordance with the script definition and for outputting an event corresponding to content of the script; and

event drive means for fetching the event and for picking up processing that is driven by the event according to the list of events.

4. (Amended) The software management system according to claim 1, wherein the script is described in XML (extensible markup language), and the script definition is described in DTD (document type definition).

5. (Amended) The software management system according to claim 1, wherein said fault countermeasure means includes:

fault data-obtaining means for obtaining fault data from said local server when a fault has occurred; and

fault countermeasure-notifying means for determining the countermeasure against the fault when the fault has occurred and for notifying said local server; and

said highly reliable means includes:

fault detector means for detecting occurrence of a fault;

fault data correction means for correcting the fault data when the fault has occurred;

fault-notifying means for sending the fault data to said center server;

restoration means for restoring, after the fault, relying upon the countermeasure against the fault from said center server; and

event collection means for collecting and recording the event data.

6. (Amended) The software management system according to claim 5, wherein said fault countermeasure means includes:

a list of fault countermeasures, storing countermeasures against faults for each kind of the fault data; and

said fault countermeasure-notifying means includes:

fault countermeasure detector means for detecting a countermeasure against a fault corresponding to the kind of the fault data based upon a list of the fault countermeasures; and

notifying means for sending the countermeasure against fault to said local server.

7. (Amended) The software management system according to claim 1, wherein said fault countermeasure means includes:

fault data-obtaining means for obtaining fault data concerning when the fault has occurred, from said local server; and

said highly reliable means includes:

fault detector means for detecting occurrence of a fault;

fault data collection means for collecting fault data when the fault has occurred;

restoration means for autonomously coping with occurrence of a fault and automatically restoring after the fault;

notifying means for sending the fault data and automatic restoration data to said center server; and

event collection means for collecting and recording the event data.

8. (Amended) The software management system according to claim 1, including a plurality of local servers, each local server including said network-directed language execution environment, said remote management means, said script interpretation means, and said highly reliable means.

9. (Amended) The software management system according to claim 8, including a plurality of center servers, each center server including the application, the script, and said fault countermeasure means.

10. (Amended) The software management system according to claim 1, including a plurality of said local servers, at least one of said local servers including said network-directed language execution environment, said remote management means, said script interpretation means, and said highly reliable means, and other local servers including said network-directed language execution environment, said remote management means, and said script interpretation means.

11. (Amended) A software management system comprising a network system which includes a center server and a local server connected to said center server via a wide-area network, wherein:
said center server includes:
an application that operates upon being downloaded onto said local server; and
a script describing operation of the application; and
said local server includes:
a network-directed language execution environment;

remote management means for downloading the application from said center server, and for deleting the application after processing has finished; and

script interpretation means for interpreting the script and for requesting the application to execute.

12. (Amended) The software management system according to claim 11, including a plurality of local servers, each local server including said network-directed language execution environment, said remote management means, and said script interpretation means.

13. (Amended) A software management system comprising a network system which includes a center server and a local server connected to said center server via a wide-area network, wherein:

said center server includes:

an application that operates upon being downloaded on-to said local server; and

fault countermeasure means for coping with occurrence of a fault; and

said local server includes:

a network-directed language execution environment;

remote management means for downloading the application from said center server, and for deleting the application after processing has finished; and

highly reliable means for recording event data that occur while the application is being executed, for managing data when a fault has occurred, and for executing restoration processing.

14. (Amended) The software management system according to claim 13, including a plurality of local servers, each local server including said network-directed language execution environment, said remote management means, and said highly reliable means.

Replace the abstract with:

ABSTRACT

A software management system for processing and maintaining improved reliability of software delivered on a wide-area network. A center server includes a script describing operation of the application, and a fault countermeasure unit for coping with the occurrence of a fault. A local server includes a network-directed language execution environment, a remote management unit for downloading or deleting the application, a script interpretation unit, and a highly reliable unit for recording event data that occur while the application is being executed, for managing the data when the fault has occurred, and for executing a restoration process . The system guarantees safe and reliable operation of the software that is downloaded through a wide-area network, and supports the collection of fault data and restoration even when an abnormal condition has occurred.

In re Application of Maekawa et al.
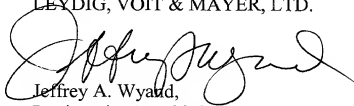Application No. Unassigned

REMARKS

The foregoing amendments are made to improve the form of the patent application. No new matter is added and entry is respectfully requested.

A favorable Action on the merits is solicited.

Respectfully submitted,

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10

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

MAEKAWA et al.

Application No.: Unassigned	Art Unit: Unassigned
Filed: January 16, 2001	Examiner: Unassigned
For: SOFTWARE MANAGEMENT SYSTEM	

SPECIFICATION, CLAIMS AND
ABSTRACT AS PRELIMINARILY AMENDED

Amendments to the paragraph beginning at page 1, line 4:

The present invention relates to a software management system comprising a network system which includes a center server and a local server connected to the center server via a wide-area network, such that the center server manages the whole wide-area network. More particularly, the invention relates to a software management system which features an improved function for downloading ~~the~~ application software from the center server onto the local server maintaining improved reliability.

Amendments to the paragraph beginning at page 1, line 14:

Use of a wide-area network such as internet is ever spreading in recent years. Further, the widespread use of "Java" which is a network-directed program language, is requiring an increased amount of processing for

downloading ~~the softwares~~ software from the center server onto a local server (computer, etc.) via a wide-area network.

Amendments to the paragraph beginning at page 1, line 21:

Besides, in recent years, even a computer having a relatively small memory capacity, such as a built-in type local server, is requiring a mechanism for downloading ~~the~~ application software.

Amendments to the paragraph beginning at page 2, line 17:

For example, "a network management method and a system therefor" disclosed in Japanese unexamined Patent Publication (Kokai) No. 11-65968) is ~~the~~ one in which a system based on a manager agent model specified under "M. 3010" recommended by ITU-T is furnished with a mechanism for downloading ~~a~~ software ~~described~~ written in Java.

Amendments to the paragraph beginning at page 3, line 1:

That is, in ~~the~~ conventional remote software management systems operating via ~~the~~ a network, the basic functions for downloading and deletion have been specified, but no consideration has been given to ~~the functions for~~ improving the reliability of the system, such as ~~the~~ processing for coping with the abnormal operation of the software that is downloaded or ~~the mechanism~~ for guaranteeing safe and reliable operation.

In re Application of Maekawa et al.
Application No. Unassigned

Amendments to the paragraph beginning at page 3, line 9:

When ~~a~~ consideration is given to ~~that the softwares~~ software that may be further delivered via ~~the~~ a network in the future, ~~it needs not be pointed out that~~ it becomes very necessary to maintain safety of the software that is downloaded and to cope with ~~the~~ abnormal operation that may ~~happen~~occur. However, no conventional system is capable of coping with the demand to a sufficient degree.

Amendments to the existing claims:

1. (Amended) A software management system comprising a network system which includes a center server and a local server connected to said center server via a wide-area network, wherein:

said center server includes~~:~~:

 an application that operates upon being downloaded onto said local server;

a script describing ~~the~~ operation of ~~said~~ the application; and

~~a~~ fault countermeasure means for coping with ~~the~~ occurrence of a fault; and

said local server includes:

a network-directed language execution environment;

~~a~~ remote management means for downloading the application from said center server, and for deleting the application after ~~the~~ processing has ~~been~~ finished;

~~a~~ script interpretation means for interpreting the script and for requesting ~~said~~ the application to execute ~~the processing~~; and

A3

~~a~~ highly reliable means for recording event data that occur while ~~said~~ the application is being executed, for managing ~~the~~ data when ~~the~~ a fault has occurred, and for executing ~~the~~ restoration processing.

2. (Amended) ~~A~~ The software management system according to claim 1, wherein said remote management means includes~~:~~:

center server data and application data~~;~~:

~~a~~ request processing means that ~~works in response~~ responds to a request for executing ~~said~~ the application;

~~an~~ application downloading means for downloading the application from said center server based upon ~~said~~ the center server data and ~~said~~ the application data; and

~~an~~ application management means for executing ~~the processing for driving or~~ and deleting ~~said~~ the application based on ~~said~~ the application data.

3. (Amended) ~~A~~ The software management system according to claim 1, wherein said script interpretation means includes:

a script definition and a list of events;

~~an~~ interpretation means for interpreting ~~said~~ the script in accordance with ~~said~~ the script definition and for outputting an event corresponding to ~~the~~ content of ~~definition of said~~ the script; and

~~an~~ event drive means for fetching ~~said~~ the event and for picking up ~~a~~ processing that is driven by ~~said~~ the event according to ~~said~~ the list of events.

4. (Amended) ~~A~~ The software management system according to claim 1, wherein ~~said~~ the script is described in XML (extensible markup language), and the script definition is described in DTD (document type definition).

5. (Amended) ~~A~~ The software management system according to claim 1, wherein said fault countermeasure means includes:

~~a~~ fault data-obtaining means for obtaining fault data from said local server ~~in case~~ when a fault has occurred; and

~~a~~ fault countermeasure-notifying means for determining the countermeasure against the fault ~~in case~~ when the fault has occurred and for notifying ~~it to~~ said local server; and

said highly reliable means includes:

~~a~~ fault detector means for detecting ~~the~~ occurrence of a fault ~~that has occurred~~;

~~a~~ fault data correction means for correcting the fault data when the fault has occurred;

~~a~~ fault-notifying means for ~~notifying said~~ sending the fault data to said center server;

~~a~~ restoration means for restoring, after the fault, relying upon the countermeasure against the fault from said center server; and

~~an~~ event collection means for ~~correcting~~ collecting and recording ~~said~~ the event data.

6. (Amended) ~~A~~ The software management system according to claim 5, wherein said fault countermeasure means includes:

a list of fault countermeasures, storing countermeasures against faults for each ~~of the kinds~~ kind of the fault data; and

said fault countermeasure-notifying means includes:

~~a~~ fault countermeasure detector means for detecting a countermeasure against a fault corresponding to the kind of the fault data based upon a list of the fault countermeasures; and

A5

a notifying means for ~~notifying~~ sending the countermeasure against fault to said local server.

7. (Amended) ~~A~~ The software management system according to claim 1, wherein said fault countermeasure means includes:

a fault data-obtaining means for obtaining fault data ~~of~~, concerning when the fault has occurred, from said local server; and

said highly reliable means includes:

a fault detector means for detecting ~~the~~ occurrence of a fault;

a fault data collection means for collecting fault data ~~of~~ when the fault has occurred;

a restoration means for autonomously coping with ~~the~~ occurrence of a fault ~~to~~ and automatically ~~restore~~ restoring after the fault;

a notifying means for ~~notifying~~ sending the fault data and ~~the data of~~ automatic restoration data to said center server; and

an event collection means for collecting and recording the event data.

8. (Amended) ~~A~~ The software management system according to claim 1, ~~wherein said~~ including a plurality of local servers ~~exist in a plural number~~, each ~~of which~~ local server including said network-directed language execution environment, said remote management means, said script interpretation means, and said highly reliable means.

9. (Amended) ~~A~~ The software management system according to claim 8, ~~wherein said~~ including a plurality of center servers ~~exist in a plural number~~, each ~~of which~~ center server including ~~said~~ the application, ~~said~~ the script, and said fault countermeasure means.

10. (Amended) ~~A~~ The software management system according to claim 1, ~~wherein~~ including a plurality of said local servers ~~exist in a plural number~~, at least one of ~~which~~ said local servers including said network-directed language execution environment, said remote management means, said script interpretation means, and said highly reliable means, and other local servers including said network-directed language execution environment, said remote management means, and said script interpretation means.

11. (Amended) A software management system comprising a network system which includes a center server and a local server connected to said center server via a wide-area network, wherein:
said center server includes~~:~~:
an application that operates upon being downloaded onto said local server; and
a script describing ~~the~~ operation of ~~said~~ the application; and
said local server includes:
a network-directed language execution environment;
~~a~~ remote management means for downloading the application from said center server, and for deleting the application after ~~the~~ processing has ~~been~~ finished; and
~~a~~ script interpretation means for interpreting the script and for requesting ~~said~~ the application to execute ~~the processing~~.

12. (Amended) ~~A~~ The software management system according to claim 11, ~~wherein said~~ including a plurality of local servers ~~exist in a plural number~~, each ~~of which~~ local server including said network-directed language execution environment, said remote management means, and said script interpretation means.

A7

13. (Amended) A software management system comprising a network system which includes a center server and a local server connected to said center server via a wide-area network, wherein:

said center server includes~~;~~:

an application that operates upon being downloaded on-to said local server; and

~~a~~ fault countermeasure means for coping with ~~the~~ occurrence of a fault; and

said local server includes:

a network-directed language execution environment;

~~a~~ remote management means for downloading the application from said center server, and for deleting the application after ~~the~~ processing has ~~been~~ finished; and

~~a~~ highly reliable means for recording event data that occur while ~~said~~ the application is being executed, for managing ~~the~~ data when ~~the~~ a fault has occurred, and for executing ~~the~~ restoration processing.

14. (Amended) ~~A~~ The software management system according to claim 13, ~~wherein said~~ including a plurality of local servers ~~exist in a plural number~~, each ~~of which~~ local server including said network-directed language execution environment, said remote management means, and said highly reliable means.

In re Application of Maekawa et al.
Application No. Unassigned

Amendments to the abstract:

ABSTRACT

A software management system for processing~~,~~ and maintaining improved reliability~~, a~~ of software delivered on a wide-area network. A center server~~1~~ includes a script~~12~~ describing ~~the~~ operation of the application~~11~~, and a fault countermeasure ~~means 13~~ unit for coping with the occurrence of a fault. A local server~~3~~ includes a network-directed language execution environment~~31~~, a remote management ~~means 32~~ unit for downloading or deleting the application, a script interpretation ~~means 33~~unit, and a highly reliable ~~means 34~~ unit for recording event data that occur while the application is being executed, for managing the data when the fault has occurred, and for executing ~~the~~ a restoration ~~processing~~process . The system guarantees safe and reliable operation of the software that is downloaded through a wide-area network, and ~~offers a function of supporting~~supports the collection of fault data and restoration even ~~in case~~ when an abnormal condition has occurred~~s~~.

A9

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

MAEKAWA et al.

Application No.: Unassigned		Art Unit:	Unassigned
Filed:	January 16, 2001	Examiner:	Unassigned
For:	SOFTWARE MANAGEMENT SYSTEM		

CLAIMS PENDING AFTER PRELIMINARY AMENDMENT

1. A software management system comprising a network system which includes a center server and a local server connected to said center server via a wide-area network, wherein:

said center server includes:

an application that operates upon being downloaded onto said local server;

a script describing operation of the application; and

fault countermeasure means for coping with occurrence of a fault; and

said local server includes:

a network-directed language execution environment;

remote management means for downloading the application from said center server, and for deleting the application after processing has finished;

script interpretation means for interpreting the script and for requesting the application to execute; and

highly reliable means for recording event data that occur while the application is being executed, for managing data when a fault has occurred, and for executing restoration processing.

2. The software management system according to claim 1, wherein said remote management means includes:

center server data and application data:

request processing means that responds to a request for executing the application;

application downloading means for downloading the application from said center server based upon the center server data and the application data; and

application management means for executing and deleting the application based on the application data.

3. The software management system according to claim 1, wherein said script interpretation means includes:

a script definition and a list of events;

interpretation means for interpreting the script in accordance with the script definition and for outputting an event corresponding to content of the script; and

event drive means for fetching the event and for picking up processing that is driven by the event according to the list of events.

4. The software management system according to claim 1, wherein the script is described in XML (extensible markup language), and the script definition is described in DTD (document type definition).

5. The software management system according to claim 1, wherein said fault countermeasure means includes:

fault data-obtaining means for obtaining fault data from said local server when a fault has occurred; and

fault countermeasure-notifying means for determining the countermeasure against the fault when the fault has occurred and for notifying said local server; and

said highly reliable means includes:

fault detector means for detecting occurrence of a fault;

fault data correction means for correcting the fault data when the fault has occurred;

fault-notifying means for sending the fault data to said center server;

restoration means for restoring, after the fault, relying upon the countermeasure against the fault from said center server; and

event collection means for collecting and recording the event data.

6. The software management system according to claim 5, wherein said fault countermeasure means includes:

a list of fault countermeasures, storing countermeasures against faults for each kind of the fault data; and

said fault countermeasure-notifying means includes:

fault countermeasure detector means for detecting a countermeasure against a fault corresponding to the kind of the fault data based upon a list of the fault countermeasures; and

notifying means for sending the countermeasure against fault to said local server.

7. The software management system according to claim 1, wherein said fault countermeasure means includes:

fault data-obtaining means for obtaining fault data concerning when the fault has occurred, from said local server; and

said highly reliable means includes:

fault detector means for detecting occurrence of a fault;

fault data collection means for collecting fault data when the fault has occurred;

restoration means for autonomously coping with occurrence of a fault and automatically restoring after the fault;

notifying means for sending the fault data and automatic restoration data to said center server; and

event collection means for collecting and recording the event data.

8. The software management system according to claim 1, including a plurality of local servers, each local server including said network-directed language execution environment, said remote management means, said script interpretation means, and said highly reliable means.

9. The software management system according to claim 8, including a plurality of center servers, each center server including the application, the script, and said fault countermeasure means.

10. The software management system according to claim 1, including a plurality of said local servers, at least one of said local servers including said network-directed language execution environment, said remote management means, said script interpretation means, and said highly reliable means, and other local servers including said network-directed language execution

environment, said remote management means, and said script interpretation means.

11. A software management system comprising a network system which includes a center server and a local server connected to said center server via a wide-area network, wherein:

said center server includes:

an application that operates upon being downloaded onto said local server; and

a script describing operation of the application; and

said local server includes:

a network-directed language execution environment;

remote management means for downloading the application from said center server, and for deleting the application after processing has finished; and

script interpretation means for interpreting the script and for requesting the application to execute.

12. (Amended) The software management system according to claim 11, including a plurality of local servers, each local server including said network-directed language execution environment, said remote management means, and said script interpretation means.

13. A software management system comprising a network system which includes a center server and a local server connected to said center server via a wide-area network, wherein:

said center server includes:

an application that operates upon being downloaded on-to said local server; and

fault countermeasure means for coping with occurrence of a fault; and

said local server includes:

a network-directed language execution environment;

remote management means for downloading the application from said center server, and for deleting the application after processing has finished; and

highly reliable means for recording event data that occur while the application is being executed, for managing data when a fault has occurred, and for executing restoration processing.

14. The software management system according to claim 13, including a plurality of local servers, each local server including said network-directed language execution environment, said remote management means, and said highly reliable means.